

[1.] what is MS word?

Ans: - The first version, Microsoft word for MS-DOS 1.00, was introduced in 1983. MS word is an application software which enables us to create, edit, save and print professional as well as personal documents in a lucid and efficient way. In MS office suite, it is one of the important tools that is primarily designed for word processing.

(b) what is multimedia?

Ans: Multimedia is any combination of text, graphic art, sound, animation and video delivered to us by computer or by other electronic media. When we provide a structure of linked element for navigation, interactive multimedia becomes hypermedia.

(c) what is software? Enlist system and application software.

Ans: Program/set of instructions that instruct the user about the machine and tell the hardware what to do are called computer software.

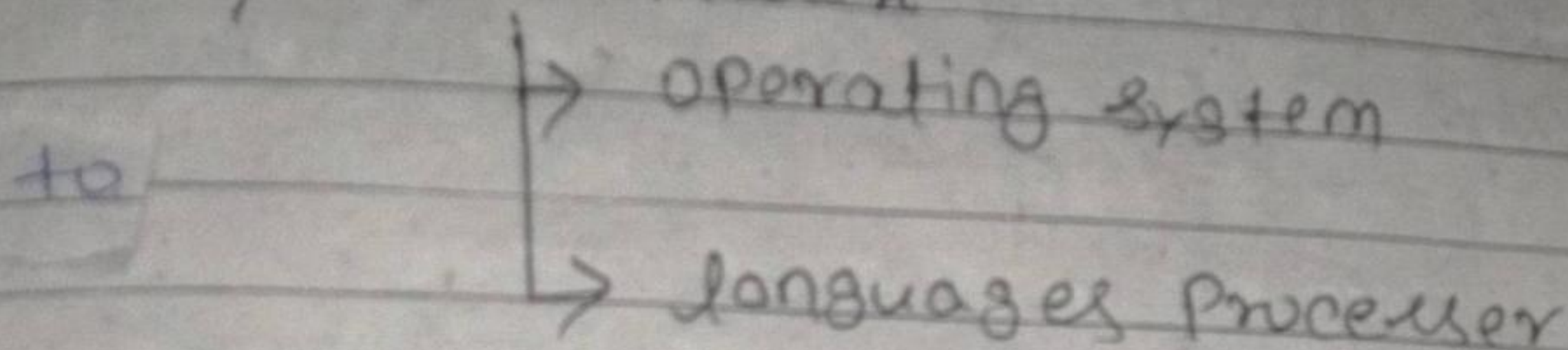
- It is a combination of instruction and data.
- Software refers to the set of computer programmes that describes the program how they are to be used.



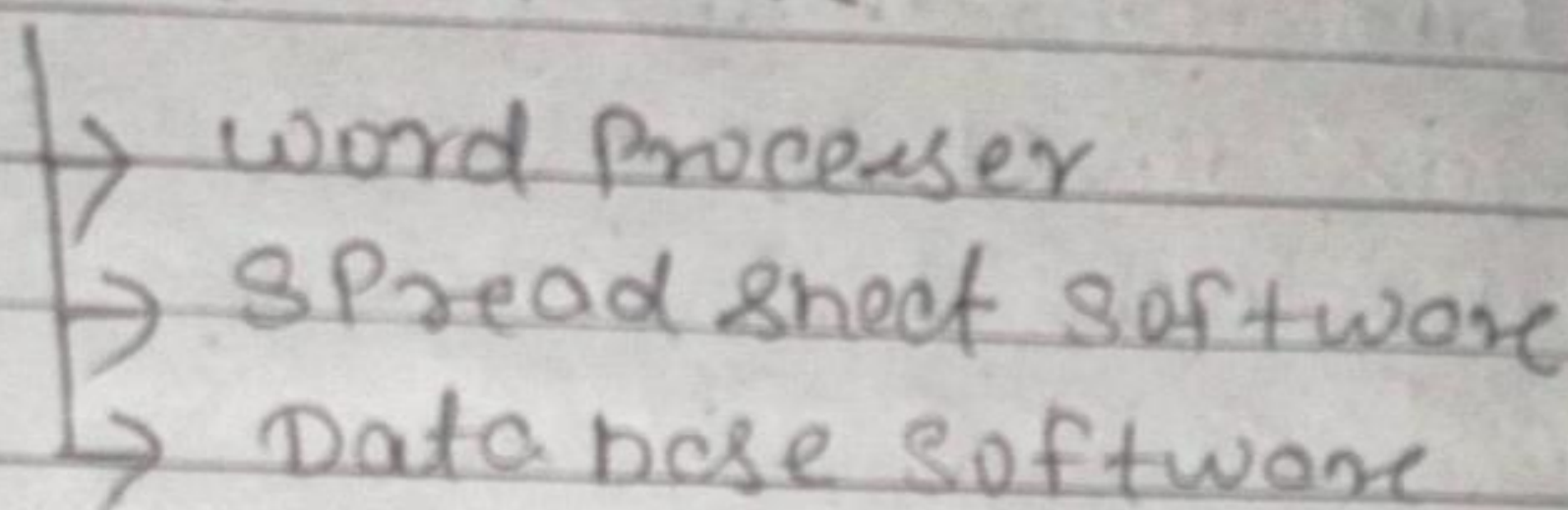
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## Types of Software.

### (1) System Software

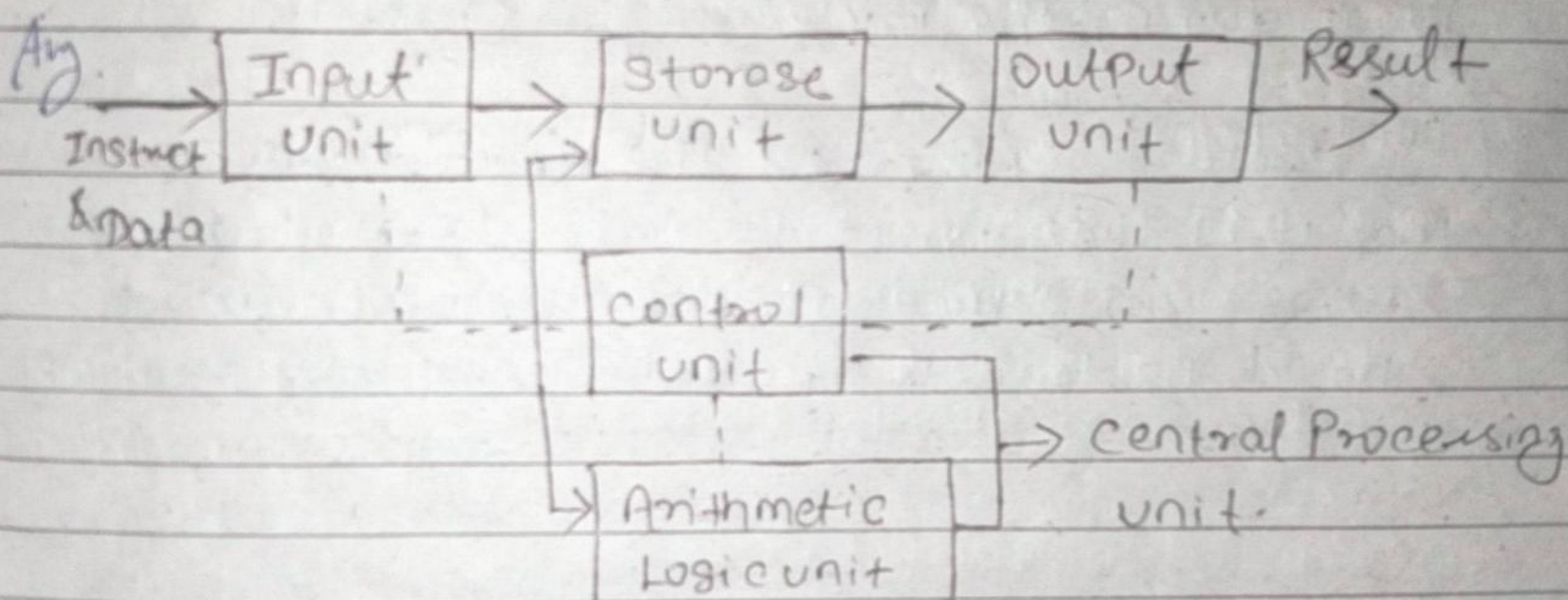


### (2) Application Software



### (3) Utility Software

(d.) Draw the block diagram of computer.



(i) Input unit:- Input is responsible for entering any data. Data and instructions must enter the computer system before any computation performed on the supplied data.



(ii) Output unit:— This unit is responsible for supplying information and results of computation to the outside world. The job of an output unit is just the reverse of that of an input unit.

(iii) Storage unit:— Storage unit is responsible for storing data into memory. Entered data and instructions must be stored into storage unit before the actual processing starts.

(iv) Arithmetic Logic unit:—

The arithmetic logic unit (ALU) of a computer system is the place where the actual execution of the instructions takes place during the processing operation.

(v) Control unit:— How does the input device know that it is time for it to feed data into the storage unit? How does the ALU know, what should be done with data once they received?



## (c) Difference between RAM and Rom.

RAM	Rom
(i) It stands for Random Access memory.	It stands for Read only memory.
(ii) RAM is volatile.	Rom is non-volatile
(iii) Allows Reading and writing.	Allow reading only.
(iv) Temporary Storage.	Permanent Storage.
(v) RAM is expensive.	Rom is cheap.
(vi) DRAM & SRAM	PROM & EPROM
(vii) Store data in MBs.	Store data in GBs

(1.) what do you understand by the instruction set?

Ans:- An instruction set can be defined as a group of instructions that a processor can execute to perform different operation.

The CPU processing of an instruction by the CPU consist of following steps.

(i) fetch:- The CPU fetches the machine code of the instruction from the memory, and the Program counter is replaced by the next instruction.

(ii) Decode:- The instruction is decoded by the CPU to determine the action to be performed.

(iii) Execute:- The instruction is executed to perform a specific task.

(iv) store:- The result generated by the execution on an instruction is stored back into the memory.



② what are the different types of memory? How size of memory is specified? Define the access time of memory.

Ans: It includes cache memory, main memory, secondary memory and mass storage. As we move up the pyramid, we encounter storage elements, which have faster access time, higher cost per bit stored & less capacity.

Access Time:- It refers to the time taken by the processor in completing the request made by the user for performing the read and write operations. It depends on the type of storage device used & the access mode of data.

③ what is an operating system? Explain the services provided by an operating system.

Ans: An operating system is an integrated set of programs that controls the resources such as CPU, memory, I/O devices etc, of a computer system and provides its user with an interface or virtual machine that is more convenient to use than the base machine.

An operating system is master control program that runs the computer and acts as a scheduler.



The main functions of operating system are -

- (i) Process management: - This module takes care of the creation and deletion of Process, scheduling of various system resources to the different Process requesting them, and providing mechanisms for synchronization and communication among Process.
- (ii) memory management: - This module takes care of the allocation and deallocation of memory space to the various programs in need of this resource.
- (iii) file management: - This module takes care of file related activities such as organization, storing, retrieval, naming, sharing etc.
- (iv) I/O Device management: - This module takes care of I/O devices to be used in efficient manner.
- (v) Security: - This module of an operating system protects the resources and information of a computer against destruction & unauthorized access.
- (vi) Command Interpretation: - This module of an operating system takes care of interpreting user commands and directing the system resources to handle the request.



① Briefly explain the functions of operating system.

Ans. The main functions performed by the operating system are—

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Q) write an algorithm to find largest number from array of  $n$  numbers.

A

Algorithm  $\max(A, n)$   
 //  $A$  is an array of size  $n$   
 {

$\text{Result} := A[1]$   
 for  $i := 2$  to  $n$  do  
     if  $A[i] > \text{Result}$  then  $\text{Result} := A[i]$ ;  
 return  $\text{Result}$ ;

}

Q) what is Programming language? compare assembly language and high-level language.

Ans

Programming is the process of converting system specification into machine instructions that produce desired result. A Programming language is a set of symbols that instruct the hardware of computer to perform a specified task.

### Assembly Language

- (i) It is used to mnemonic codes to write instruction.
- (ii) It is machine dependent.
- (iii) It also requires the programmer to have a good knowledge.
- (iv) It is still difficult to correct or modify assembly language program.

### High-level Language

- It is used in english word mathematical symbols etc.
- It is machine independent.
- It does not require the programmer to have a knowledge.
- It is easier to correct or modify high-level language programs.



④ Write down various differences between Procedure oriented Programming and object oriented Programming.

The various differences between oop & Procedure-oriented programming are -

Object-oriented Programming	Procedure-oriented
(i) It emphasizes on data rather than Procedure.	It emphasizes on doing things or algorithms.
(ii) Programs are decomposed into objects.	Large amount are decomposed into function.
(iii) Data structures used characterize the object.	Most of the function share global data.
(iv) Data is hidden and cannot be accessed by external functions.	Data move openly around the system from fun to function.
(v) OOP follows bottom up approach in Program design.	POP follows top-down approach in Program design.



(5.) AlgorithmFlowcharts

- (i) It is a language independent set of action intended to perform a specific task.
- (ii) It shows only the logic of the program.
- (iii) It does not use any symbol to represent specific actions.

A flowchart is a pictorial representation of an algorithm.

It shows the logic and the flow of control of the program.

It uses symbols to represent actions and arrow to indicate the flow of control.

- (6.) What is an array? What are its properties? Write a program in C++ to arrange numbers in an array in ascending order.

An array is a group of related data items that share a common name. Array elements are organized as a sequence of data in memory, where in all data are of same type, and are placed in physically adjacent locations.

Array must be declared before they are used. The general form of array is

type variable-name[size]



Array in Ascending order -

void arrange (int x[], int n)

{

int s, j, p;

int status = TRUE;

for (p = 0; p < n - 1 && status == TRUE; p++)

{

status = FALSE;

for (j = 0; j < n - p - 1; j++)

{

if (x[j] > x[j+1])

{

status = TRUE;

s = x[j];

x[j] = x[j+1];

x[j+1] = s;

}

}

}

}



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(7) Define token?

A The smallest individual units in a program are known as tokens.

C++ has the following tokens -

- (i) Keywords (ii) Identifiers (iii) Constants
- (iv) Strings (v) Operators.

What is functions?

Ans - A function is a set of program statements that can be processed independently. A function can be invoked which behaves as though its code is inserted at the point of the function call.



Q1) Define data structures.

Ans:- Data may be organized in many different ways. The logical or mathematical model of a particular organization of data is known as a data structure. Some of the data structures are arrays, linked, stacks, queues and trees.

→ The data structure is classified into two ways

(i) Linear data structures:- In the linear data structures, processing of data item is done in linear fashion. It means that can be processed one by one sequentially.  
eg. Array, linked list, stack & queues

(ii) Non-linear Data Structure:- A data structure in which insertion and deletion can't be done in a linear fashion is known as non-linear data structure.

eg. Tree, Graph

Q2) What is class? And object in C++.

Ans. A class is a way to bind the data and its associated function together. It allows the data to be hidden. If necessary, from external use.



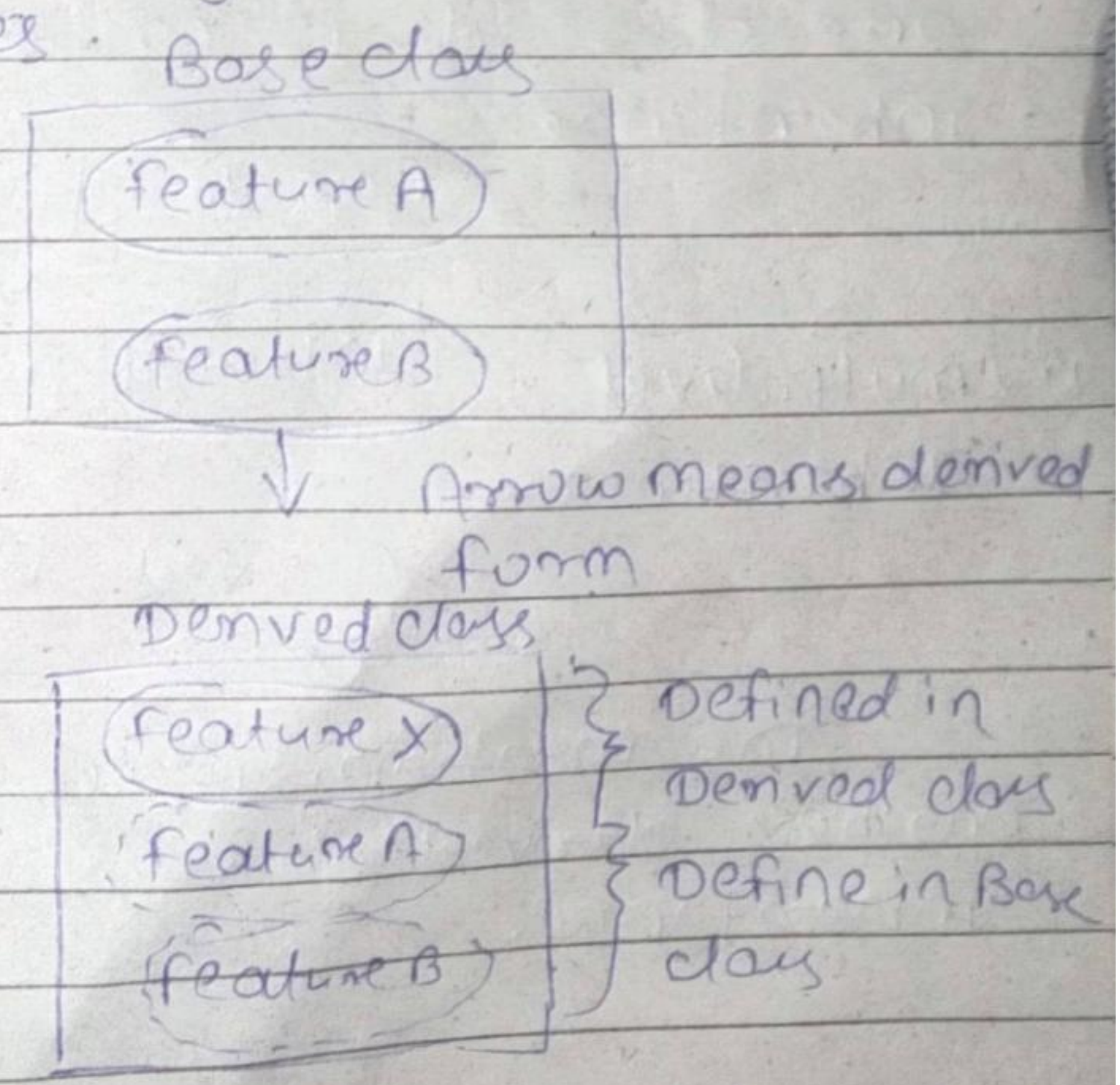
→ There are 4 types of object

→ The object encapsulate data, operations, other objects, constants and other related information. They may represent a person, a place, a bank-account, a table of data or any item that program has to handle.

- (i) External objects (ii) Automatic objects
- (iii) Static objects (iv) Dynamic objects

③ what is inheritance? write the different types of inheritance.

Ans: Inheritance is the process by which objects of one class acquire the properties of object of another class. i.e., inheritance is the process of creating new classes called derived classes.

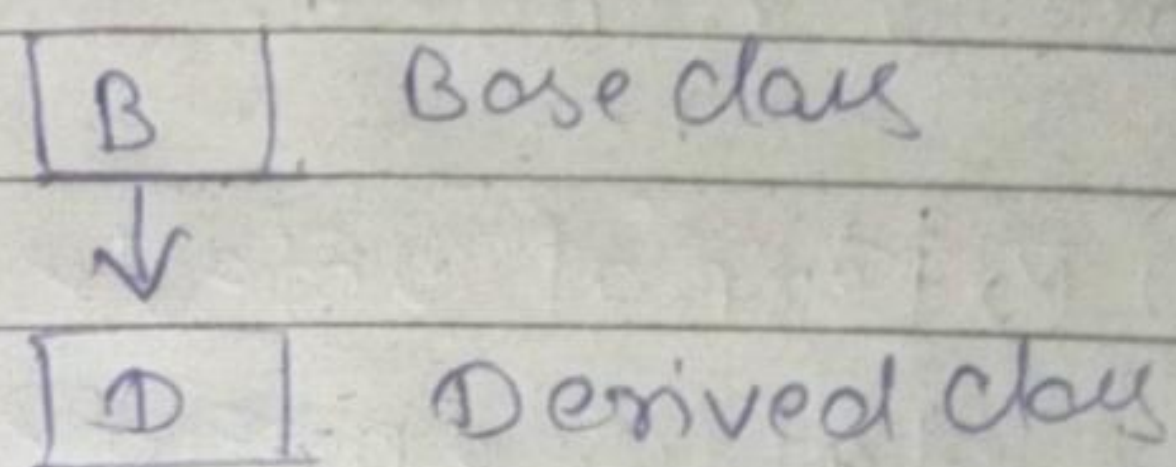




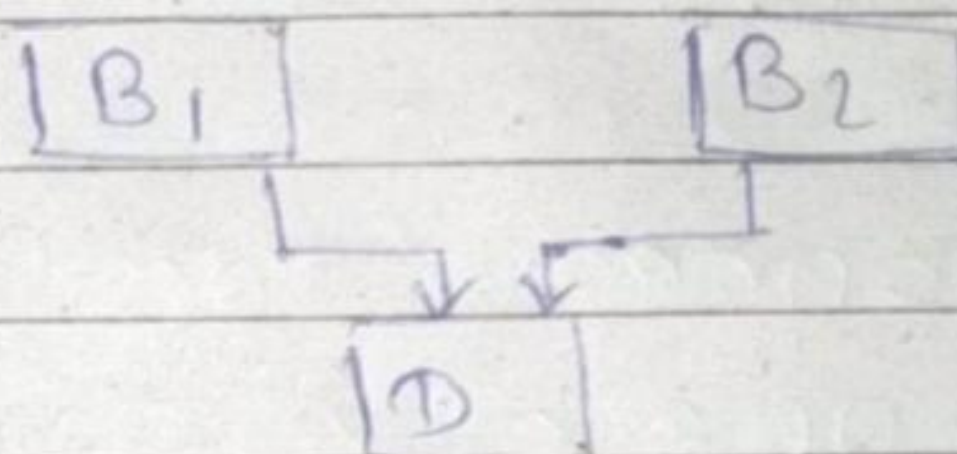
→ These are following forms of inheritance.

- (i) Single inheritance
- (ii) Multiple inheritance
- (iii) Hierarchical inheritance
- (iv) Multilevel
- (v) Hybrid inheritance.

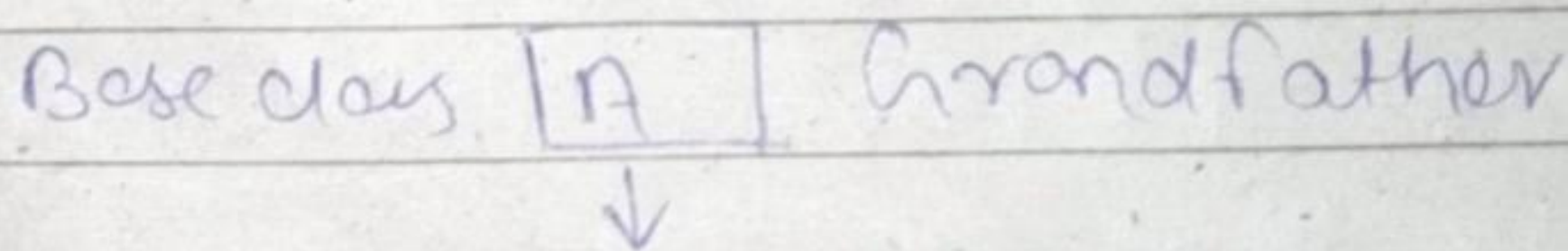
(i) Single Inheritance: - A derived class with only one class is called single inheritance.



(ii) Multiple Inheritance: - A derived class with several base classes is called multiple inheritance.



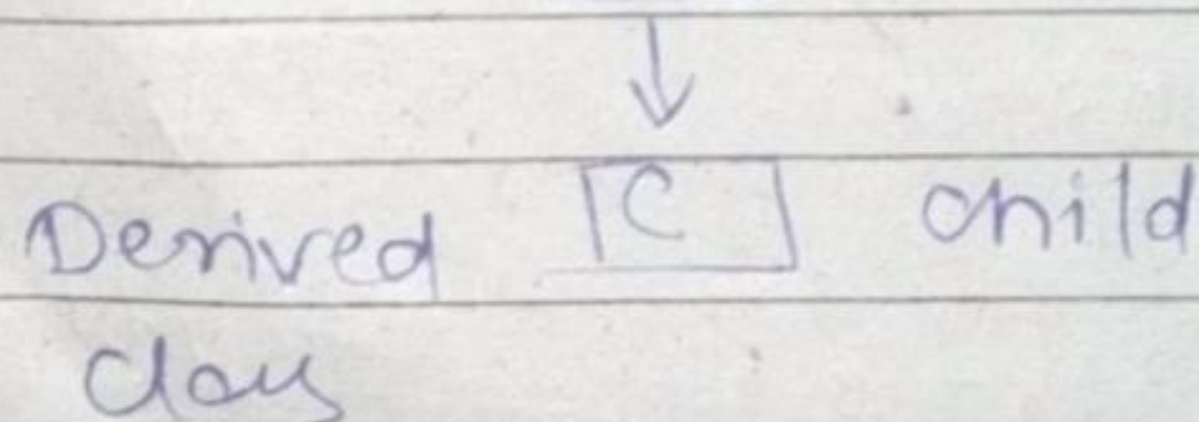
(iii) Hierarchical Inheritance: - The features of one class may be inherited by more than one class. It is called the hierarchical inheritance.



(iv) Multilevel

Inheritance: -

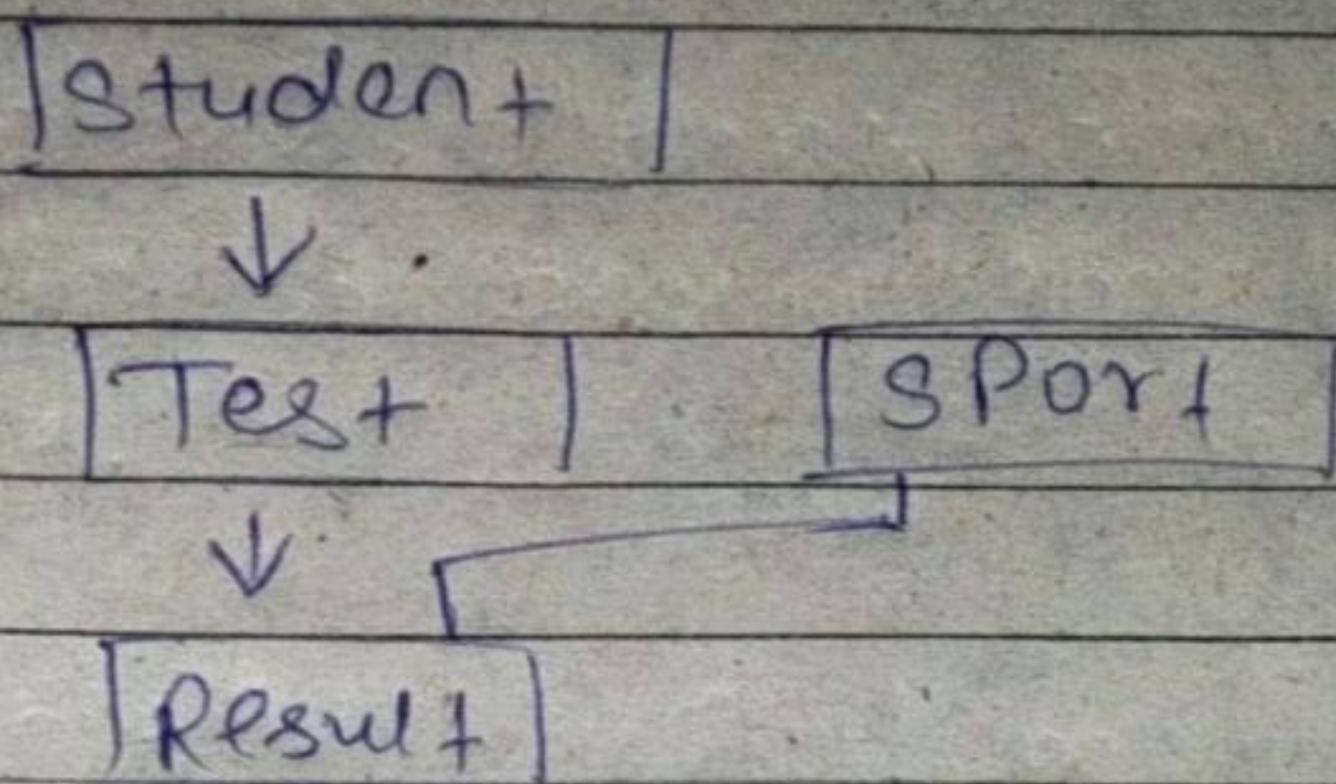
Inheritance: -



The mechanism of deriving a class from another "derived class" is called multilevel inheritance.



(v) Hybrid Inheritance: — when we need two or more types of inheritance to design a Program. This process is called hybrid inheritance.



(4) what is a constructors? what is importance of a constructors?

A constructor is a member function of the class and it is called each time when an object of that class is created. Therefore, an initialization needs to be done when an object is created which automatically done by the constructor fun. It is called constructor, because it constructs the value of data members of the class.

A constructor is declared & defined as follows:

class integer

{

int m, n;

public:

integer(void); // constructor declared

---

};

{ integer::integer(void) // constructor defined

{

m=0;

n=0;

}



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Define the following:-

- (i) constructor (ii) virtual function  
(iii) friend function (iv) class

Ans (i) constructor:-

A constructor is a member function of the class and it is called each time when an object of that class is created.

(ii) Virtual function

Virtual means existing in appearance but not in reality. When virtual functions are used, a program that appears to be calling a function of one class may in reality be calling a function of a different class.

(iii) Friend function

The Private members can't be accessed from outside the class. It means a non-member function can't have an access to the Private data of a class. However, there could be a situation where we would like two classes to share a particular function.

(iv) Class:- A class is a way to bind the data and its associated functions together. It allows the data (and fun.) to be hidden.